

Claims

- [c1] 1. A method for assembling a magnetic field generator for a magnetic resonance imaging system, the method comprising:
establishing a layout for a permanent magnet of a magnet assembly comprising a pole piece, a ferromagnetic plate yoke and a permanent magnet;
populating said layout with a plurality of mock-up sticks and block retainers to form a mock layout for said permanent magnet; and
installing a magnet block in place of at least one mock-up stick of said plurality of mock-up sticks, wherein said installing comprises pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks.
- [c2] 2. The method of Claim 1 further including repeating said installing until each said at least one mock-up stick of said plurality of mock-up sticks is replaced by a plurality of magnet blocks.
- [c3] 3. The method of Claim 1 further including installing a pole piece positioning tool to facilitate location and placement of said pole piece on said magnet assembly.
- [c4] 4. The method of Claim 1 wherein said layout comprises a desired configuration of said permanent magnet divided into segments about equal to the width of a magnet block with selected respective lengths.
- [c5] 5. The method of Claim 1 wherein said mock-up sticks exhibit a width just larger than the width of said magnet block.
- [c6] 6. The method of Claim 1 wherein each mock-up stick of said plurality of mock-up sticks respectively, exhibits a length substantially equal to said selected respective lengths.
- [c7] 7. The method of Claim 1 wherein each mock-up stick of said plurality of mock-up sticks is non-magnetic.
- [c8] 8. The method of Claim 1 wherein said populating includes arranging said plurality of mock-up sticks in a parallel, side-by-side, sequential manner.

- [c9] 9. The method of Claim 1 said installing includes a magnet block pusher tool configured to facilitate said pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks.
- [c10] 10. The method of Claim 1 said installing includes securing said magnet block employing at least one of; frictional engagement between said magnet block and at least one of another magnet block and said block retainer, and an adhesive.
- [c11] 11. A method for assembling a magnetic field generator for a magnetic resonance imaging system, the method comprising:
establishing a layout for a permanent magnet of a magnet assembly comprising a pole piece, a ferromagnetic plate yoke and a permanent magnet;
populating said layout with a plurality of mock-up sticks and block retainers to form a mock layout for said permanent magnet;
installing a magnet block in place of at least one mock-up stick of said plurality of mock-up sticks, wherein said installing comprises pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks; and
wherein said magnet block is frictionally secured within said layout.
- [c12] 12. A magnetic field generator for a magnetic resonance imaging system comprising:
a layout for a permanent magnet of a magnet assembly comprising a pole piece, a ferromagnetic plate yoke and a permanent magnet;
a plurality of mock-up sticks and block retainers populating said layout to form a mock layout for said permanent magnet; and
a magnet block installed in place of at least one mock-up stick of said plurality of mock-up sticks, wherein installing said magnet block comprises pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks.
- [c13] 13. The magnetic field generator of Claim 12 further including repeating said installing until each said at least one mock-up stick of said plurality of mock-up

sticks is replaced by a plurality of magnet blocks.

- [c14] 14. The magnetic field generator of Claim 12 further including installing a pole piece positioning tool to facilitate location and placement of said pole piece on said magnet assembly.
- [c15] 15. The magnetic field generator of Claim 12 wherein said layout comprises a desired configuration of said permanent magnet divided into segments about equal to the width of a magnet block with selected respective lengths.
- [c16] 16. The magnetic field generator of Claim 12 wherein said mock-up sticks exhibit a width just larger than the width of said magnet block.
- [c17] 17. The magnetic field generator of Claim 12 wherein each mock-up stick of said plurality of mock-up sticks respectively, exhibits a length substantially equal to said selected respective lengths.
- [c18] 18. The magnetic field generator of Claim 12 wherein each mock-up stick of said plurality of mock-up sticks is non-magnetic.
- [c19] 19. The magnetic field generator of Claim 12 wherein said populating includes arranging said plurality of mock-up sticks in a parallel, side-by-side, sequential manner.
- [c20] 20. The magnetic field generator of Claim 12 said installing includes a magnet block pusher tool configured to facilitate said pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks.
- [c21] 21. The method of Claim 12 said installing includes securing said magnet block employing at least one of; frictional engagement between said magnet block and at least one of another magnet block and said block retainer, and an adhesive.
- [c22] 22. A magnetic field generator for a magnetic resonance imaging system comprising:
a layout for a permanent magnet of a magnet assembly comprising a pole piece,

a ferromagnetic plate yoke and a permanent magnet;
a plurality of mock-up sticks and block retainers populating said layout to form a mock layout for said permanent magnet;
a magnet block installed in place of at least one mock-up stick of said plurality of mock-up sticks, wherein installing said magnet block comprises pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks; and
wherein said magnet block is frictionally secured within said layout.

- [c23] 23. A magnetic field generator for a magnetic resonance imaging system comprising:
means for establishing a layout for a permanent magnet of a magnet assembly comprising a pole piece, a ferromagnetic plate yoke and a permanent magnet;
means for populating said layout with a plurality of mock-up sticks and block retainers to form a mock layout for said permanent magnet; and
means for installing a magnet block in place of at least one mock-up stick of said plurality of mock-up sticks, wherein said installing comprises pushing said magnet block along a selected slot formed by the displacement of said at least one mock-up stick of said plurality of mock-up sticks.
- [c24] 24. The magnetic field generator of Claim 23 further including means for repeating said installing until each said at least one mock-up stick of said plurality of mock-up sticks is replaced by a plurality of magnet blocks.
- [c25] 25. The magnetic field generator of Claim 23 further including a means for installing a pole piece positioning tool to facilitate location and placement of said pole piece on said magnet assembly.
- [c26] 26. The magnetic field generator of Claim 23 wherein said layout comprises a desired configuration of said permanent magnet divided into segments about equal to the width of a magnet block with selected respective lengths.
- [c27] 27. The magnetic field generator of Claim 23 wherein said mock-up sticks exhibit a width just larger than the width of said magnet block.
- [c28] 28. The magnetic field generator of Claim 23 wherein each mock-up stick of

